

**Applicants:** Magerl et al.  
**Application No.:** 09/701,104

## **REMARKS**

Claims 3 – 8, 10, 12, 13, 15, and 19 are currently pending in the application. Claims 3, 12, 15, and 19 have been amended. Applicants submit that no new matter has been introduced into the application by these amendments.

### **Telephonic Interview**

The Examiner is thanked for granting a telephonic interview with the Applicants' representative, Robert Ballarini, on December 21, 2006. During the interview the above amendments as well as the Crane reference were discussed.

### **Claim Rejections - 35 USC § 112**

Claims 3 – 8, 10, 12, 13, 15, and 19 stand rejected under 35 U.S.C. § 112, second paragraph, as indefinite. As discussed, and agreed upon, in the interview the above amendments to claims 3, 12, 15, and 19 render the rejection under § 112 moot. Withdrawal of the § 112 rejection is respectfully requested.

### **Claim Rejections - 35 USC § 102**

Claims 3, 5 – 8, 10, 12, 13, 15, and 19 were rejected in the Action under 35 U.S.C. § 102(b) as anticipated by U.S. Patent No. 4,255,478 to Crane. Applicants

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respectfully traverse the rejection of these claims and respectfully submit that these claims are patentable over the art of record for at least the reasons set forth below.

Independent claim 12 currently recites features that are neither disclosed nor suggested by Crane, namely:

*A surgically implantable component comprising: a composite of polymer or ceramic material; X-ray absorbing reinforcing fibers distributed throughout the composite, wherein an orientation of the X-ray absorbing reinforcing fibers is tailored to a shape and application of the surgically implantable component (1, 18) in a defined manner...; and carbon fibers, wherein a total fiber percentage in the composite remains constant over a length or width of the surgically implantable component, which changes a ratio of carbon fibers (6) to X-ray absorbing fibers (6).*

As discussed and agreed upon during the teleconference with Applicants' representative, the Examiner indicated that amendment to claim 12 obviates the rejection in view of the Crane reference. Applicants' invention as currently claimed provides a *surgically implantable* component comprising a composite that has a predictable progression and predictable quantity and orientation of X-ray absorbing reinforcing fibers. The X-ray absorbing reinforcing fibers are tailored to the shape

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and application of the *surgically implantable* component. The total fiber percentage of carbon fibers and X-ray absorbing reinforcing fibers in the composite remains constant over the surgically implantable component's length or width, but this changes the ratio of carbon fibers to X-ray absorbing reinforcing fibers, depending on the application requirement.

In contrast, Crane neither discloses nor suggests an orientation of X-ray absorbing reinforcing fibers tailored to a shape and application of a surgically implantable component, and a constant total fiber percentage in the composite which changes a ratio of carbon fibers to X-ray absorbing fibers. More specifically, Crane discloses a composite structure comprised of plies of fiber-reinforced tape segments in which the fibers are embedded in a resin matrix so as to be parallel to the edges of the tape. See column 2, lines 62 – 64 of Crane. As illustrated in Fig. 1, a boron fiber (14) is positioned along and between the abutting edges of the tape segments. Column 3, lines 13 – 14. The tape segments (18) of each ply are arranged in a 45°, - 45° pattern and, since the boron fibers are laid along edges of the tape segments, they are likewise arranged in a 45°, - 45° pattern. Column 3, lines 29 – 37. Importantly, the arrangement of boron fibers is such that no single boron fiber is positioned vertically over another boron fiber. Column 3, lines 38 – 40. In other words, the structure of Crane requires a very specific configuration, and nowhere does Crane disclose or suggest an orientation of X-ray absorbing

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reinforcing fibers *tailored to a shape and application of a surgically implantable component.* Similarly, Crane neither discloses nor suggests a constant total fiber percentage in the composite which changes a ratio of carbon fibers to X-ray absorbing fibers. Thus, Crane fails to recite each and every feature of Applicants' claimed invention.

It is because Applicants' invention comprises an orientation of X-ray absorbing reinforcing fibers tailored to a shape and application of a surgically implantable component, and a constant total fiber percentage in the composite which changes a ratio of carbon fibers to X-ray absorbing fibers that the following advantages are achieved. Tailoring the orientation of the X-ray absorbing reinforcing fibers makes it possible to graduate the visibility of the surgically implantable component, i.e., of an implant. See page 4, lines 31 – 33 of the originally-filed translation. Depending on the segments of an implant where a stronger, weaker, or even no X-ray visibility is desired, it is possible to control the application and used quantity of fibers made out of X-ray opaque materials. Page 4, line 33 – page 5, line 2. Hence, the ability to concentrate or accumulate these fibers is of particular importance. Page 5, lines 2 – 3. Because the total fiber percentage in the composite remains constant (which changes a ratio of carbon fibers to X-ray absorbing fibers), the visibility can be deliberately controlled for an optimal X-ray

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diagnostics, without impairing the strength values of the surgically implantable component. Page 5, lines 15 – 20.

Thus, because independent claim 12 currently recites features that are neither disclosed nor suggested by Crane, Applicants respectfully submit that claim 12 should be allowed.

Independent claims 15 and 19, while not identical to claim 12, currently recite features similar to claim 12. Specifically, among other things, each of claims 15 and 19 recites that an orientation of X-ray absorbing reinforcing fibers is tailored to a shape and application of a surgically implantable component, and that the concentration of the X-ray absorbing reinforcing fibers is varied in different areas of the surgically implantable component. Accordingly, Applicants respectfully submit that claims 15 and 19 are also patentable over Crane for at least the reasons set forth above with respect to claim 12. Applicants further respectfully submit that because claims 3 – 8, 10, and 13 are dependent upon allowable claim 19, claims 3 – 8, 10, and 13 should also be allowed at least as dependent upon an allowable base claim. Reconsideration of these claims is respectfully requested.

### **Conclusion**

If the Examiner believes that any additional minor formal matters need to be addressed in order to place this application in condition for allowance, or that a telephone interview will help to materially advance the prosecution of this

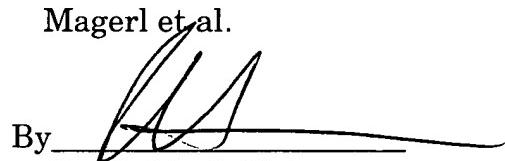
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application, the Examiner is invited to contact the undersigned by telephone at the Examiner's convenience.

In view of the foregoing amendments and Remarks, Applicants respectfully submit that the present application, including claims 3 – 8, 10, 12, 13, 15, and 19, is in condition for allowance and a notice to that effect is respectfully requested.

Respectfully submitted,

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